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using System;

using System.IO;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Week\_03\_lab\_08\_09

{

class Program

{

public static void timeDriver()

{

//create a list to store the objects

List<Time> times = new List<Time>()

{

new Time(9, 35),

new Time(18, 5),

new Time(20, 500),

new Time(10),

new Time()

};

//display all the objects

TimeFormat format = TimeFormat.Hour12;

Console.WriteLine($"\n\nTime format is {format}");

foreach (Time t in times)

{

Console.WriteLine(t);

}

//change the format of the output

format = TimeFormat.Mil;

Console.WriteLine($"\n\nSetting time format to {format}");

//SetFormat(TimeFormat) is a class member, so you need the type to access it

Time.SetTimeFormat(format);

//again display all the objects

foreach (Time t in times)

{

Console.WriteLine(t);

}

//change the format of the output

format = TimeFormat.Hour24;

Console.WriteLine($"\n\nSetting time format to {format}");

//SetFormat(TimeFormat) is a class member, so you need the type to access it

Time.SetTimeFormat(format);

foreach (Time t in times)

{

Console.WriteLine(t);

}

}

public static void songDriver()

{

//To test the constructor and the ToString method

Console.WriteLine(new Song("Baby", "Justin Bebier", 3.35, SongGenre.Pop));

//This is first time that you are using the bitwise or. It is used to specify combination of genres

Console.WriteLine(new Song("The Promise", "Chris Cornell", 4.26,

SongGenre.Country | SongGenre.Rock));

Library.LoadSongs("Week\_03\_lab\_09\_songs4.txt"); //Class methods are invoke with the class name

Console.WriteLine("\n\nAll songs");

Library.DisplaySongs();

SongGenre genre = SongGenre.Rock;

Console.WriteLine($"\n\n{genre} songs");

Library.DisplaySongs(genre);

string artist = "Bob Dylan";

Console.WriteLine($"\n\nSongs by {artist}");

Library.DisplaySongs(artist);

double length = 5.0;

Console.WriteLine($"\n\nSongs more than {length}mins");

Library.DisplaySongs(length);

}

static void Main(string[] args)

{

timeDriver();

songDriver();

}

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Week\_03\_lab\_08\_09

{

// Time format enum

enum TimeFormat

{

Mil,

Hour12,

Hour24

}

// time class

class Time

{

private static TimeFormat TIME\_FORMAT = TimeFormat.Hour12; // propety

public int Hour { get; } // propety

public int Min { get; } // propety

// constructor

public Time(int hour = 0, int minute = 0)

{

this.Hour = hour <=24 && hour >= 0 ? hour : 0;

this.Min = minute <= 60 && minute >= 0 ? minute : 0;

}

// tostring() function

public override string ToString()

{

string fmt = "00";

// switch statment to select time format

switch (Time.TIME\_FORMAT)

{

case TimeFormat.Hour24:

return $"{this.Hour.ToString(fmt)}:{this.Min.ToString(fmt)}";

case TimeFormat.Mil:

return $"{this.Hour.ToString(fmt)}{this.Min.ToString(fmt)}";

case TimeFormat.Hour12:

default:

{

if (Hour > 12)

{

return $"{(this.Hour - 12).ToString(fmt)}:{this.Min.ToString(fmt)} PM";

}

else

{

return $"{this.Hour.ToString(fmt)}:{this.Min.ToString(fmt)} AM";

}

}

}

}

// set time format function

public static void SetTimeFormat(TimeFormat time\_format)

{

Time.TIME\_FORMAT = time\_format;

}

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Week\_03\_lab\_08\_09

{

[Flags]

public enum SongGenre

{

Unclassified = 0,

Pop = 1,

Rock = 2,

Blues = 4,

Country = 8,

Metal = 16,

Soul = 32

}

public class Song

{

public string Artist { get; }

public string Title { get; }

public Double Length { get; }

public SongGenre Genre { get; }

public Song(string title, string artist, double length, SongGenre genre)

{

this.Artist = artist;

this.Title = title;

this.Length = length;

this.Genre = genre;

}

public override string ToString()

{

return $"{this.Title} by {this.Artist} ({this.Genre}) {this.Length}min";

}

}

}